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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/788,621

02/27/2004

Christopher J. Kowalsky

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PATENT DEPARTMENT
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EXAMINER

BONCK, RODNEY H

ART UNIT

PAPER NUMBER

3681

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/788,621	Applicant(s) KOWALSKY ET AL.	
	Examiner Rodney H. Bonck	Art Unit 3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,11-15,18-22 and 24-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,11-15,18-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The following action is in response to the amendment received December 27, 2005 and entered in response to the Request for Continued Prosecution filed January 27, 2006.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 5-8, 12-14, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bansbach et al.('338) in view of Maehara et al.('407). The Bansbach

Art Unit: 3681

et al. device is a unitary electrohydraulic clutch assembly comprising an input member 30 and a coaxially disposed output member 52 defining an axis. Bidirectional electric motor 92 drives gear train 94 has an input driven by the motor, and a ball screw 100 is driven by the gear train 94 and drives a first piston 118 displacing hydraulic fluid.

Annular slave piston 82 is disposed on the axis and is translated by the hydraulic pressure, and friction clutch 70 is disposed on the axis and is actuated by the annular slave piston. The Bansbach et al. device does not appear to disclose a means for

inhibiting back driving of the motor. The Maehara et al. device shows an electric motor 2200 (Fig. 12) for moving a first piston 2370 to displace hydraulic fluid that translates a piston in actuator 40 of clutch 30. Maehara et al. teach providing a means 3100 for inhibiting back driving of the electric motor 2200 and having an output 3002. It would

have been obvious to provide a means for inhibiting back driving of the motor 92 in Bansbach et al., as taught by Maehara et al., the motivation being to make it

unnecessary to constantly apply pressure to maintain clutch engagement. The

inhibiting means of Maehara et al. includes a wrap spring 3100 disposed in a cylindrical passageway and extending between a motor output hub 3001 and the inhibiting means

output 3002. Maehara et al. further disclosed controller 50 which would logically be a

microprocessor. In Bansbach et al., the friction clutch pack 70 includes first and second interleaved clutch plates and a circular apply plate 76 and a thrust bearing 128 disposed

between piston 82 and the clutch pack. Regarding claims 24 and 25, disposing the

input member, output member, electric motor, back drive inhibiting means, gear train,

ball screw assembly, pistons, and friction clutch pack in a housing is not seen to

distinguish over Bansbach et al. and Maehara et al. Bansbach provides housing portion 96 containing the power unit (Fig. 3) and which would contain the back drive inhibiting means as modified in view of Maehara et al. Housing portion 96 is attached to housing portion 48 containing the clutch pack and annular piston. Together the housing portions provide a housing containing all the claimed items.

Claims 4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bansbach et al.('338) in view of Maehara et al.('407) as applied to claims 1, 3, 5-8, and 12-14 above, and further in view of Shaw et al.(US 2002/0162328 A1). The Bansbach et al. device does not appear to disclose a pressure sensor, as called for in these claims. The Shaw et al. device discloses an electric motor-actuated master cylinder/slave cylinder arrangement wherein a pressure sensor 174 is provided to sense pressure in the output line to the slave cylinder. It would have been obvious to carry this teaching to Bansbach et al. as modified in view of Maehara et al., providing a pressure sensor therein for the purpose of protecting the system from overpressure.

Claims 15, 18, 20-22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bansbach et al.('338) in view of Maehara et al.('407) as applied to claims 1, 3, 5-8, and 12-14 above, and further in view of Takeyama('546). In Bansbach et al., the electric motor drives single pinion 114 that in turn drives one large spur gear 112. To a person having ordinary skill in this art, however, it would have been obvious vary the gear arrangement depending on the amount of speed reduction desired.

Art Unit: 3681

Takeyama discloses a bidirectional electric motor driving a master cylinder through a gear reduction unit including two pinions 27 and 23a and two larger spur gears 23b and 18. It would have been within the skill of the artisan to use a gearing arrangement such as that of Takeyama in the device of Bansbach et al., the motivation being to achieve a particular speed reduction. Regarding claim 26, disposing the input member, output member, electric motor, back drive inhibiting means, gear train, ball screw assembly, pistons, and friction clutch pack in a housing is not seen to distinguish over Bansbach et al. and Maehara et al. Bansbach provides housing portion 96 containing the power unit (Fig. 3) and which would contain the back drive inhibiting means as modified in view of Maehara et al. Housing portion 96 is attached to housing portion 48 containing the clutch pack and annular piston. Together the housing portions provide a housing containing all the claimed items.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bansbach et al.('338) in view of Maehara et al.('407) and Takeyama('546) as applied to claims 15, 18, and 20-22 above, and in further view of Shaw et al.(US 2002/0162328 A1). As noted above, the Bansbach et al. device does not appear to disclose a pressure sensor, as called for in these claims. The Shaw et al. device discloses an electric motor-actuated master cylinder/slave cylinder arrangement wherein a pressure sensor 174 is provided to sense pressure in the output line to the slave cylinder. It would have been obvious to carry this teaching to Bansbach et al. as modified in view of

Maehara et al. and Takeyama, providing a pressure sensor therein for the purpose of protecting the system from overpressure.

Response to Amendment

The amendment of December 27, 2005 overcomes the rejection of claims 1, 3-7, and 18 under 35 USC 112, second paragraph. Accordingly, the rejection under 35 USC 112, second paragraph, is withdrawn.

Response to Arguments

Applicants' arguments filed December 27, 2005 have been considered but are not persuasive. Applicants assert that the Bansbach et al. device is not "unitary" as claimed. The examiner disagrees. The Bansbach et al. device provides the claimed structure housed in a single unit and is seen to be "unitary" to the same extent as the claimed structure. Applicants maintain that there is no suggestion to combine the Bansbach et al. and Maehara et al. devices. On the contrary, the artisan would be motivated to provide the back drive inhibiting means of Maehara et al. in Bansbach et al. to prevent hydraulic pressure in the system from back driving the electric motor. Concerning the Shaw reference, applicants assert that Shaw does not teach providing a pressure sensor in Bansbach et al. The examiner disagrees. The Shaw et al. device suggests providing a pressure sensor 174 for the purpose of providing "a pressure signal to control device 176. Control device 176 then operates to control functions of

Art Unit: 3681

system 100 through a connection to motor 146." It is seen as obvious to one having ordinary skill in this art to provide a pressure sensor in Bansbach et al. for use in controlling the motor to thus control pressure in the system, as suggested by Shaw et al. Applicants further maintain that it would not have been obvious to provide "at least two pinion gears and two, larger spur gears" in the Bansbach et al. device. It is the examiner's position, though, that changing the number and size of the gears in a gear train is within the purview of the ordinary gear designer depending on motor size, output load, and desired step-up or step-down ratio desired. Thus providing additional gears in Bansbach et al., such as shown by Takeyama, would have been obvious to one of ordinary skill in this art. Providing a housing for the components, as now claimed in claims 24-26, is also seen as taught by the prior art applied as pointed out above. Therefore, the rejections of the claims are still believed proper.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney H. Bonck whose telephone number is (571) 272-7089. The examiner can normally be reached on Monday-Friday 7:00AM - 3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Rodney H. Bonck
Primary Examiner
Art Unit 3681

rhb
March 1, 2006